Inspiring Innovation • Persistent Perfection

P8H77-V

Superior graphics and precision power delivery on H77

- DIGI+ VRM - Digital power control: digital power Design for the CPU and iGPU
- GPU Boost - Instant iGPU Level Up!
- LucidLogix® Virtu MVP - Up to 60% Hybrid Graphics Boost
- Protect 3.0 - Protect the Earth & the system & you
- USB3.0 Boost - Lightning Fast Transfer Speeds!

CPU, Chipset and Graphics features

LGA1155 Intel® 3rd/2nd Generation Processors Ready

This motherboard supports the Intel® 3rd/2nd generation processors in the LGA1155 package, with iGPU, memory and PCI Express controllers integrated to support onboard graphics output with dedicated chipsets, 2-channel (4 DIMM) DDR3 memory and 16 PCI Express 3.0/2.0 lanes. This provides great graphics performance. Intel® 3rd/2nd generation processors are among the most powerful and energy efficient CPUs in the world.

Intel® H77 Express Chipset

The Intel® H77 Express Chipset is a single-chipset design to support socket 1155 Intel® 3rd/2nd generation processors. It provides improved performance by utilizing serial point-to-point links, allowing increased bandwidth and stability. Additionally, H77 chipset provides 4 USB 3.0 ports for 10 times faster data retrieval speed. Moreover, Intel® H77 Express Chipset can also enable iGPU function, letting users enjoy the latest Intel® integrated graphic performance.

PCIe 3.0 Ready

The latest PCI Express bus standard delivers improved encoding for twice the performance of current PCIe 2.0. Total bandwidth for a x16 link reaches a maximum of 32GB/s, double the 16GB/s of PCIe 2.0 (in x16 mode). PCIe 3.0 provides users unprecedented data speeds, combined with the convenience and seamless transition offered by complete backward compatibility with PCIe 1.0 and PCIe 2.0 devices. It's a must-have feature for PC users aiming to improve and optimize graphics performance, as well as have the latest, most future-proof technology.

*This motherboard is ready to support PCIe 3.0 SPEC. Functions will be available when using PCIe 3.0-compliant devices. Please refer to www.asus.com for updated details.

Quad-GPU CrossFireX Support!

Flexible Multi-GPU solutions, Your Weapon of Choice!
P8H77-V brings you the multi-GPU choice of CrossFireX. The motherboard features the most powerful Intel® H77 platform to optimize PCIe allocation in multiple GPU configurations. Expect a brand-new gaming style you've never experienced before!

Intel® Smart Response Technology

SSD Speed with HDD Capacity
Intel® Smart Response Technology boosts overall system performance. It uses an installed fast SSD (min 18.6GB available capacity required) as a cache for frequently accessed data. Key benefits include reduced load and wait times, and lower power consumption through the elimination of unnecessary hard drive spin. This technology combines SSD performance with hard drive capacity, operating up to 6X faster than a hard drive-only system.

Intel® Smart Connect Technology

Auto Application Refresh. Less Waiting Time

Your computer can receive web updates with fresh content for selected applications, even when the system is in sleep mode. This means less time waiting for applications to update and sync with the cloud, leading to a more efficient computing experience.

Intel® Rapid Start Technology

Instant Awake your PC from Sleep Mode

Allows your computer to quickly resume from a low-power hibernate state in seconds. Saving your system memory to the designated SSD, it provides your computer a faster wake-up response time, while still keeping the energy use low.

LucidLogix Virtu MVP

Up to 60% Hybrid Graphics Boost and 3X Faster Video Conversion

LucidLogix Virtu MVP featuring HyperFormance™ Technology boosts your discrete graphics card up to 60% beyond its original performance through the test of 3DMark Vantage. Designed for Intel® processor graphics and Windows® 7 PCs, it perfectly combines the performance of discrete graphics cards with fast computing iGPU. Also with the newly designed Virtual Sync, users can enjoy a smoother gaming experience by eliminating tearing artifacts. LucidLogix Virtu MVP could also dynamically assign tasks to the best available graphics resource, based on power, performance and system load. This allows users to fully utilize 3x faster video conversion with Intel® Quick Sync Video technology while retaining high-end 3D rendering and gaming performance, provided by both NVIDIA® and AMD graphic cards. When the discrete graphics card is not required, power consumption goes automatically down to near zero, making the system more environmentally-friendly. For users searching for perfection, LucidLogix Virtu MVP provides great graphical performance and the best flexibility and efficiency.

* LucidLogix® Virtu Universal MVP™ supports Windows® 7 operating system.
** Intel® Quick Sync Video feature is supported by 3rd/2nd generation Intel® Core™ processor family.
*** System Config: OS: Windows 7 64bit SP1 | MB: P8Z77-V DELUXE | CPU: CPU-1155-QB15-2700K-3.5G-Sandy BRIDGE100-8M
|DIMM: DDR3 G.SKILL 17000CL9Q-16GBZH 4GB * 4 | Lucidvirtu MVP version: V2.1.110.19997 | On-board Intel VGA Driver version: V8.15.10.2598 | ASUS GTX580 Driver version: V8.17.12.8562

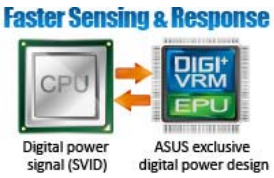
ASUS DIGI+ VRM

DIGI+ Power Control: Digital Power Design for the CPU and iGPU

ASUS motherboards using the Intel® H77 chipset employ precise digital voltage regulation for the CPU, called DIGI+ VRM (Voltage Regulation Modules) digital power design. The CPU voltage and VRM frequency are adjusted via either carefully developed automated modes, or by using user-defined profiles. The effect is that DIGI+ VRM technology ensures greater energy efficiency and the best possible PC stability. Boosted by world-renowned ASUS quality, it creates an ideal computing platform for a diverse range of applications, from gaming to multimedia or office work and heavy multitasking. Engineered and tested to assure unmitigated performance, ASUS H77 boards with DIGI+ VRM remain efficient and stability, for reliable application in every scenario.

Direct DIGI to DIGI Power Delivery Yeilds Greater Efficiency

ASUS DIGI+ VRM design is an innovative, industry-leading technology that fully integrates Intel® VRD12 specifications at a wholly native level, reacting faster than ever to voltages change demands requested via digital signal from the CPU. This greatly enhances power efficiency and reliability beyond the limits of old, analog designs.

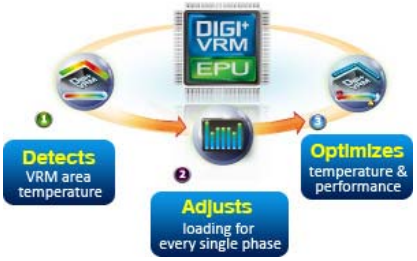


Precise Tuning, and Control of the CPU and iGPU Voltages

Voltage Regulation Modules, or VRMs, are among the most essential motherboard components. They supply the ever changing voltage and power demanded by the CPU, requiring a good motherboard VRM design to intelligently and accurately detect real-time CPU power draw to provide precise power accordingly. ASUS DIGI+ VRM design provides the most precise tuning and control of CPU and its processor graphics (iGPU) voltages, with digital VRM frequency and power phase control offering superior flexibility, more reliability and better efficiency.

T.Probe: Automatic Realtime Analysis for Thermal Balance and Ultimate PC Stability

The digital power architecture delivers intelligently adjusting load across all the phases, thanks to VRM temperature analysis and control from ASUS exclusive T.Probe. T. Probe maintains a cool average temperature by actively regulating the power load across the DIGI+ VRM array. This dramatically reduces hot spots, increasing system life and stability.



ASUS Exclusive Features

EPU

Energy Efficiency All Around

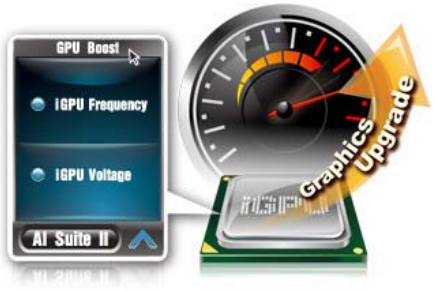
Tap into the world's first real-time PC power saving chip through a simple onboard switch or AI Suite II utility. Get total system-wide energy optimization by automatically detecting current PC loadings and intelligently moderating power

GPU Boost

Go to the Limit with iGPU Level Up!

GPU Boost accelerates the integrated GPU for extreme graphics performance. The user-friendly interface facilitates flexible frequency adjustments. It easily delivers stable system-level upgrades for every use.

consumption. This also reduces fan noise and extends component longevity!



Latest Transfer Technology

USB 3.0 Boost

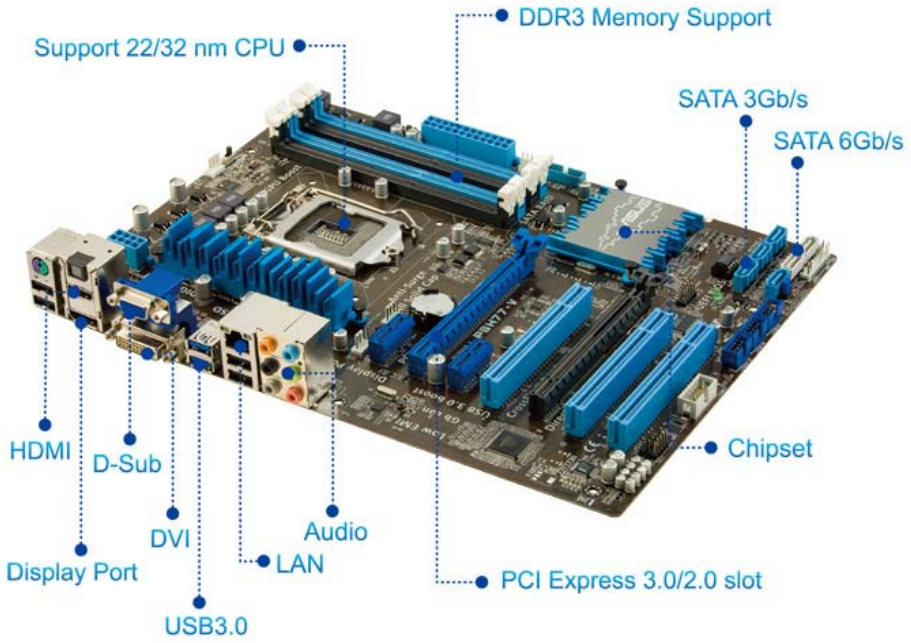
Faster USB 3.0 Transmission with UASP ASUS USB 3.0 Boost technology supports UASP (USB Attached SCSI Protocol), the latest USB 3.0 standard. It provides up to 170% faster transmission speed over regular USB 3.0 and automatically accelerates data speeds for compatible USB 3.0 peripherals without the need for any user interaction.

RoHS

GreenASUS

The motherboard is European Union´s Energy-related Products (ErP) ready, and ErP requires products to meet certain energy efficiency requirements in regards to energy consumptions. This is in line with ASUS vision of creating environment-friendly and energy-efficient products through product design and innovation to reduce carbon footprint of the product and thus mitigate environmental impacts.

P8H77-V Product Overview



Other ASUS Features

UEFI BIOS (EZ Mode)

The new ASUS UEFI BIOS is an Unified Extensible Firmware Interface

AI Suite II

One-stop Access to Innovative ASUS Features

MemOK!

MemOK! quickly ensures memory boot compatibility

Fan Xpert

Active Quiet & Cool

100% All High-quality Conductive Polymer Capacitors

TurboV

This intutive performance-improvement tool allows users to adjust the system

SATA 6.0 Gb/s Support

ASUS provides SATA 6.0 Gb/s ports with enhanced

Low EMI

Protect 3.0 motherboards effectively reduce 50% radiation

Uses all high-quality conductive polymer capacitors for durability, improved lifespan, and enhanced thermal capacity.

performance paramaters with just a few clicks through its user-friendly interface.

scalability, faster data retrieval, and double the bandwidth of current bus systems.

Specifications

CPU	Intel® Socket 1155 for 3rd/2nd Generation Processors Supports Intel® 22 nm CPU Supports Intel® 32 nm CPU Supports Intel® Turbo Boost Technology 2.0 * The Intel® Turbo Boost Technology 2.0 support depends on the CPU types. * Refer to www.asus.com for CPU support list
Chipset	Intel® H77
Memory	4 x DIMM, Max. 32GB, DDR3 MHz Non-ECC, Un-buffered Memory Dual Channel Memory Architecture Supports Intel® Extreme Memory Profile (XMP) * Refer to www.asus.com or user manual for the Memory QVL (Qualified Vendors Lists). * Due to OS limitation, when installing total memory of 4GB capacity or more, Windows® 32-bit operation system may only recognize less than 3GB. Install a 64-bit Windows® OS when you want to install 4GB or more memory on the motherboard.
Graphic	Integrated Graphics Processor Multi-VGA output support : HDMI/DVI/RGB/DisplayPort ports - Supports HDMI with max. resolution 1920 x 1200 @ 60 Hz - Supports DVI with max. resolution 1920 x 1200 @ 60 Hz - Supports RGB with max. resolution 2048 x 1536 @ 75 Hz - Supports DisplayPort with max. resolution 2560 x 1600 @ 60 Hz Maximum shared memory of 1696 MB Supports Intel® HD Graphics
Multi-GPU Support	Supports AMD Quad-GPU CrossFireX™ Technology Supports LucidLogix® Virtu™ MVP Technology *1
Expansion Slots	1 x PCIe 3.0/2.0 x16 (blue) 1 x PCIe 2.0 x16 (x4 mode, black) *2 2 x PCIe 2.0 x1 3 x PCI
Storage	**Intel® H77 chipset :** 2 x SATA 6Gb/s port(s), gray 4 x SATA 3Gb/s port(s), blue Support Raid 0, 1, 5, 10 Supports Intel® Smart Response Technology, Intel® Rapid Start Technology, Intel® Smart Connect Technology *3
LAN	Qualcomm Atheros, 1 x Gigabit LAN Controller(s)
Audio	VIA VT1708S 8-Channel High Definition Audio CODEC - Supports : Jack-detection, Multi-streaming, Front Panel Jack-retasking **Audio Feature :** - Absolute Pitch 192kHz/ 24-bit True BD Lossless Sound - Blu-ray audio layer Content Protection - Optical S/PDIF out port(s) at back panel
USB Ports	**Intel® H77 chipset :** *4 4 x USB 3.0 port(s) (2 at back panel, blue, 2 at mid-board) **Intel® H77 chipset :** 10 x USB 2.0 port(s) (4 at back panel, black, 6 at mid-board)
Overclocking Features	**Overclocking Protection :** - ASUS C.P.R.(CPU Parameter Recall)
Special Features	**ASUS EPU :** - EPU **ASUS Digital Power Design :** - Industry leading 6 + 1 + 2 Phase Power Design - ASUS DIGI+ VRM Utility **ASUS Protect 3.0 Technology :** - Anti-Surge Protection - Low EMI Solution - ESD **TurboV** **GPU Boost** **ASUS Exclusive Features** :

	- MemOK! - AI Suite II - USB 3.0 Boost **ASUS Quiet Thermal Solution** : - Stylish Fanless Design Heat-sink solution & MOS Heatsink - ASUS Fan Xpert - ASUS Q-Fan **ASUS EZ DIY :** - ASUS CrashFree BIOS 3 - ASUS EZ Flash 2 - ASUS MyLogo 2 **ASUS Q-Design :** - ASUS Q-Slot **100% All High-quality Conductive Polymer Capacitors**
Back I/O Ports	1 x PS/2 keyboard/mouse combo port(s) 1 x DVI 1 x D-Sub 1 x DisplayPort 1 x HDMI 1 x LAN (RJ45) port(s) 2 x USB 3.0 4 x USB 2.0 1 x Optical S/PDIF out 6 x Audio jack(s)
Internal I/O Ports	1 x USB 3.0 connector(s) support(s) additional 2 USB 3.0 port(s) 3 x USB 2.0 connector(s) support(s) additional 6 USB 2.0 port(s) 1 x COM port(s) connector(s) 2 x SATA 6Gb/s connector(s) 4 x SATA 3Gb/s connector(s) 1 x CPU Fan connector(s) 2 x Chassis Fan connector(s) 1 x Power Fan connector(s) 1 x S/PDIF out header(s) 1 x 24-pin EATX Power connector(s) 1 x 8-pin ATX 12V Power connector(s) 1 x Front panel audio connector(s) (AAFP) 1 x System panel(s) 1 x MemOK! button(s) 1 x GPU Boost switch(es) 1 x Clear CMOS jumper(s)
Accessories	User's manual I/O Shield 2 x SATA 6Gb/s cable(s)
BIOS	64 Mb Flash ROM, UEFI AMI BIOS, PnP, DMI2.0, WfM2.0, SM BIOS 2.6, ACPI 2.0a, Multi-language BIOS, ASUS EZ Flash 2, ASUS CrashFree BIOS 3, F12 PrintScreen Function
Manageability	WfM 2.0, DMI 2.0, WOL by PME, WOR by PME, PXE
Support Disc	Drivers ASUS Utilities ASUS Update Anti-virus software (OEM version)
Form Factor	ATX Form Factor 12 inch x 8.9 inch (30.5 cm x 22.6 cm)
Note	*1: LucidLogix Virtu MVP supports Windows 7 operating systems. *2: The PCIe x 16 slot (black x4 mode) is compatible with PCIe x1 and x4 devices. *3: Supports on Intel® Core™ processor family with Windows® 7 operating systems. *4-1: Supports ASUS USB 3.0 Boost UASP Mode. *4-2: The USB 3.0 ports only support Windows® 7 or later versions.